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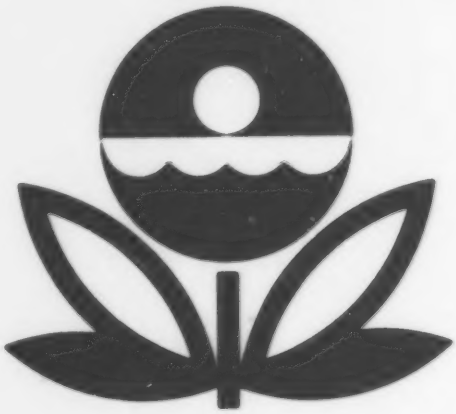
U.S. ENVIRONMENTAL PROTECTION AGENCY
NATIONAL EUTROPHICATION SURVEY

WORKING PAPER SERIES



CORVALLIS ENVIRONMENTAL RESEARCH LABORATORY - CORVALLIS, OREGON

and

ENVIRONMENTAL MONITORING & SUPPORT LABORATORY - LAS VEGAS, NEVADA

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Report

on

Weiss Reservoir

Cherokee County, Alabama

and

Floyd County, Georgia

EPA Region IV

Working Paper No. 235

With the cooperation of the

Alabama Water Improvement Commission

and the

Alabama National Guard

July 1976

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FOREWORD

The National Eutrophication Survey was initiated in 1972 in response to an Administration commitment to investigate the nationwide threat of accelerated eutrophication to freshwater lakes and reservoirs.

OBJECTIVES

The Survey was designed to develop, in conjunction with state environmental agencies, information on nutrient sources, concentrations, and impact on selected freshwater lakes as a basis for formulating comprehensive and coordinated national, regional, and state management practices relating to point source discharge reduction and nonpoint source pollution abatement in lake watersheds.

ANALYTIC APPROACH

The mathematical and statistical procedures selected for the Survey's eutrophication analysis are based on related concepts that:

a. A generalized representation or model relating sources, concentrations, and impacts can be constructed.

b. By applying measurements of relevant parameters associated with lake degradation, the generalized model can be transformed into an operational representation of a lake, its drainage basin, and related nutrients.

c. With such a transformation, an assessment of the potential for eutrophication control can be made.

LAKE ANALYSIS

In this report, the first stage of evaluation of lake and watershed data collected from the study lake and its drainage basin is documented. The report is formatted to provide state environmental agencies with specific information for basin planning [§303(e)], water quality criteria/standards review [§303(c)], clean lakes [§314(a,b)], and water quality monitoring [§106 and §305(b)] activities mandated by the Federal Water Pollution Control Act Amendments of 1972.

Beyond the single lake analysis, broader based correlations between nutrient concentrations (and loading) and trophic condition are being made to advance the rationale and data base for refinement of nutrient water quality criteria for the Nation's freshwater lakes. Likewise, multivariate evaluations for the relationships between land use, nutrient export, and trophic condition, by lake class or use, are being developed to assist in the formulation of planning guidelines and policies by the U.S. Environmental Protection Agency and to augment plans implementation by the states.

ACKNOWLEDGEMENTS

The staff of the National Eutrophication Survey (Office of Research and Development, U.S. Environmental Protection Agency) expresses sincere appreciation to the Alabama Water Improvement Commission for professional involvement and to the Alabama National Guard for conducting the tributary sampling phase of the Survey.

E. John Williford, Chief, Surveillance and Monitoring Section; and John C. Chitwood, Biologist, Surveillance and Monitoring Section; and Sam L. Coleman, Water Quality Planning Section; and M. H. Floyd, Engineer, Surveillance and Monitoring Section; and Truman Green, Engineer, Municipal Waste Control Section; and Tim McCartha, Biologist, Surveillance and Monitoring Section; and James E. McIndoe, Engineer, Water Quality Planning Section; and Richard T. Maddox, Engineer, Industrial Waste Control Section; and James T. White, Engineer, Municipal Waste Control Section provided invaluable lake documentation and counsel during the course of the Survey.

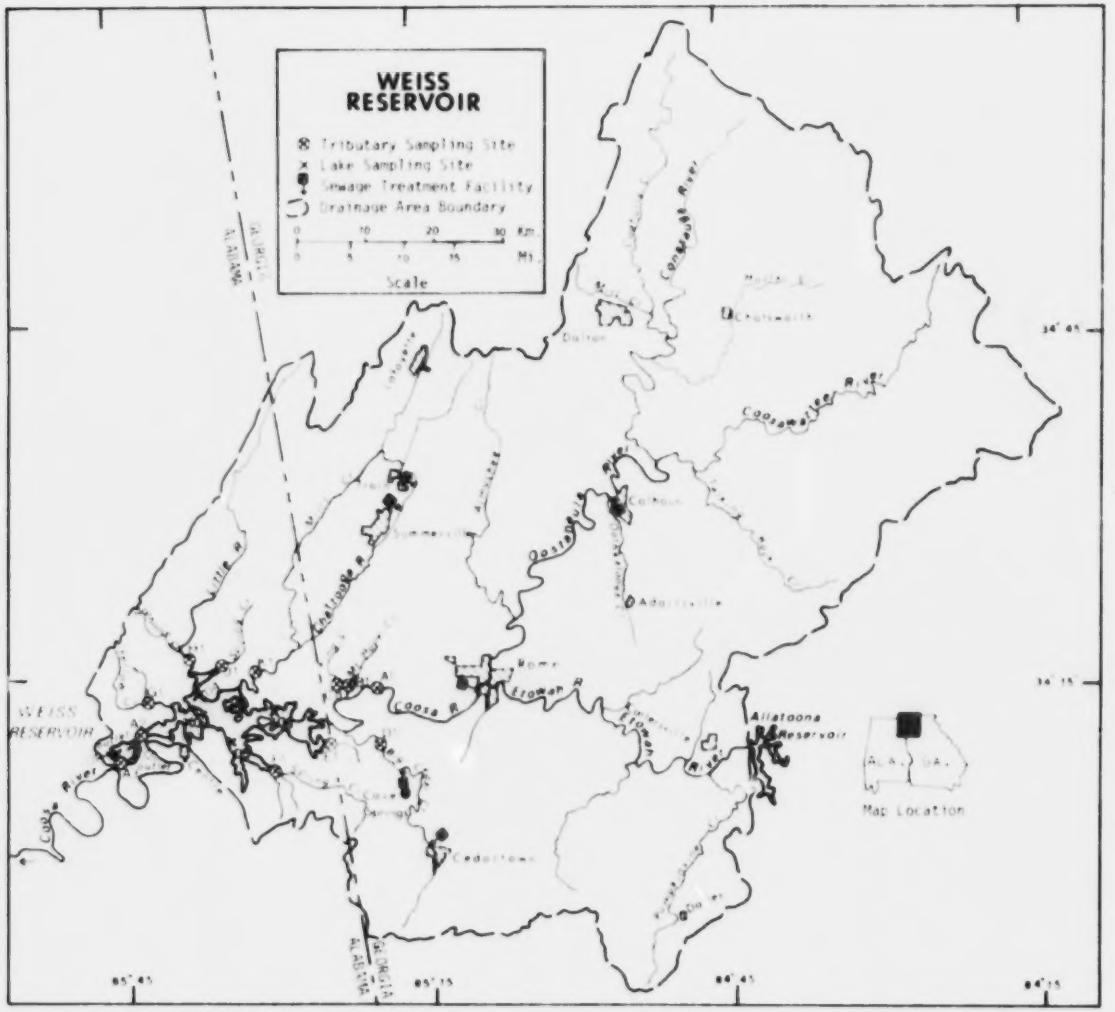
Major General Charles A. Rollo, Adjutant General of Alabama, and Project Officer Lt. Col. Wash B. Ray, who directed the volunteer efforts of the Alabama National Guardsmen, are also gratefully acknowledged for their assistance to the Survey.

NATIONAL EUTROPHICATION SURVEY

STUDY LAKES

STATE OF ALABAMA

LAKE NAME	COUNTY
Bankhead	Walker
Gantt	Covington
Guntersville	Marshall, Johnson
Holt Lock and Dam	Tuscaloosa
Lay	Chilton, Coosa
Martin	Elmore, Tallapoosa
Mitchell	Coosa, Chilton
Pickwick	Colbert, Lauderdale (Tishomingo in MS and Hardin in TN)
Purdy	Jefferson, Shelby
Weiss	Cherokee
Wilson	Lauderdale, Colbert, Lawrence


WEISS
RESERVOIR
Tributary Sampling Site
Lake Sampling Site
Sewage Treatment Facility
Drainage Area Boundary
Scale
Km
Mi
WEISS
RESERVOIR
Allatoona
Reservoir
Map Location

WEISS RESERVOIR, ALABAMA AND GEORGIA

STORET NO. 0112

I. CONCLUSIONS

A. Trophic Condition:*

Weiss Reservoir is classified as eutrophic based upon Survey data, i.e., nutrient rich and highly productive. Whether such nutrient enrichment is to be considered beneficial or deleterious is determined by its actual or potential impact upon designated beneficial water uses of each lake.

Of the 11 Alabama lakes surveyed in 1973, none had higher median total phosphorus and chlorophyll a values or lower Secchi disc transparency than this Coosa River impoundment. Marked depression of dissolved oxygen with depth occurred at Station 4 during June and August. The phytoplankton was dominated by large numbers of pollution-tolerant genera, and field limnologists reported abundant emergent vegetation along shoreline areas of the reservoir.

B. Rate-Limiting Nutrient:

Algal assay results suggest that Weiss Reservoir was colimited by nitrogen and phosphorus in primary production at Stations 1 through 4 and limited by available

*See Appendix E.

nitrogen levels at Stations 5 and 6. The ratios of inorganic nitrogen to orthophosphorus (N/P) in sampled waters were generally consistent with nitrogen limitation.

C. Nutrient Controllability:

1. Point sources -

The mean annual phosphorus load from point sources was estimated to be 22.1% of the total load reaching Weiss Reservoir. The city of Calhoun, Georgia, contributed a total of 9.6%, and Rome, Georgia, contributed 8.3%. The remaining five known wastewater treatment plants contributed a total of 4.2% of the total load.

The present loading of 9.45 g $P/m^2/yr$ is about 6 times that proposed by Vollenweider (1975) as eutrophic, and 12 times the proposed oligotrophic load. However, Vollenweider's model may not be applicable to lakes with short hydraulic retention times, and the retention time of Weiss Reservoir is only 16 days.

2. Nonpoint sources -

The mean annual phosphorus load from nonpoint sources was about 77.9% of the load reaching Weiss Reservoir. The Coosa River system accounted for 73.1% of this nonpoint contribution, and ungaged drainage areas were estimated to have contributed 0.9%. Nutrient contributions from the cities of Cartersville and Dalton were not included in the

nutrient budget for Weiss Reservoir due to their distance from the Coosa River inlet sampling station. It is expected, however, that the unusually high background loading for the Coosa River is due, at least in part, to unmeasured contributions from these areas.

In general, few lakes are nitrogen limited as a result of low nitrogen. Rather, excessive phosphorus levels shift limitations to nitrogen or other factors. Regardless of the primary nutrient limitation suggested by either algal assay or nutrient ratios, the most feasible approach to nutrient control, if desirable, is through available phosphorus control technology and subsequent establishment of phosphorus limitation within the water body.

II. LAKE AND DRAINAGE BASIN CHARACTERISTICS

Lake and drainage basin characteristics are itemized below. Lake surface area and mean depth were provided by the Alabama Water Improvement Commission; maximum depth was estimated on the basis of National Eutrophication Survey (NES) sampling data; tributary flow data were provided by the Alabama District Office of the U.S. Geological Survey (USGS)(outlet drainage area includes the lake surface area). Mean hydraulic retention time was obtained by dividing the lake volume by mean flow of the outlet. Precipitation values were estimated by methods as outlined in NES Working Paper No. 175. A table of metric/English conversions is included as Appendix A.

A. Lake Morphometry:

1. Surface area: 122.22 km^2.
2. Mean depth: 2.8 meters.
3. Maximum depth: 15.2 meters.
4. Volume: 342.216 x 10^6 m^3.
5. Mean hydraulic retention time: 16 days.

B. Tributary and Outlet (see Appendix B for flow data):

1. Tributaries -

Name	Drainage area(km^2)	Mean flow (m^3/sec)
A(1) Coosa River	10,650.1	185.23
B(1) Mt. Hope Creek	22.8	0.37
C(1) King Creek	26.9	0.46
D(1) Big Cedar Creek	510.2	8.00
E(1) Mud Creek	23.8	0.39
F(1) Spring Creek (south)	110.1	1.27
G(1) Yellow Creek	80.3	2.01
H(1) Little River	502.5	12.78
J(1) Spring Creek (north)	94.5	2.59
K(1) Chattooga River	976.4	18.34
Minor tributaries and immediate drainage -	530.5	12.04
Totals	13,528.1	243.48

2. Outlet - Coosa River 13,649.3 252.56

C. Precipitation:

1. Year of sampling: 176.0 cm.
2. Mean annual: 136.4 cm.

III. LAKE WATER QUALITY SUMMARY

Weiss Reservoir was sampled four times during the open-water season of 1973 by means of a pontoon-equipped Huey helicopter. Each time, samples for physical and chemical parameters were collected from six stations on the lake (one station was sampled four times, four stations were sampled three times, and one station was sampled twice) and from one or more depths at each station (see map). During each visit, depth-integrated samples were collected from each station for chlorophyll a analysis and phytoplankton identification and enumeration. During the first visit, 18.9-liter depth-integrated samples were composited for algal assays. Maximum depths sampled were 9.0 m at Station 1, 14.0 m at Station 2, 11.0 m at Station 3, 7.6 m at Station 4, 9.1 m at Station 5, and 9.1 m at Station 6. For a more detailed explanation of NES methods, see NES Working Paper No. 175.

The results obtained are presented in full in Appendix C and are summarized in III-A for waters at the surface and at the maximum depth for each site. Results of the phytoplankton counts and chlorophyll a determinations are included in III-B. Results of the limiting nutrient study are presented in III-C.

PHYSICAL AND CHEMICAL CHARACTERISTICS

PARAMETER	NO*	(8/13/73) n*** = 1 VALUE	MEDIAN	MAX DEPTH RANGE (METERS)	NO*	(8/ /73) n*** = 6 VALUE	MEDIAN	MAX DEPTH RANGE (METERS)	NO*	(8/23/73) n*** = 6 VALUE	MEDIAN	MAX DEPTH RANGE (METERS)
TEMPERATURE (DEG. CENT)												
SURFACE - DEPTH**	1	14.0- 14.0	14.0	0.0- 0.0	12	22.0- 26.2	25.2	0.0- 1.5	12	27.2- 29.4	27.8	0.0- 1.5
MAX DEPTH**	1	14.0- 14.0	14.0	5.0- 5.8	6	26.0- 25.6	22.9	7.6- 14.0	6	25.4- 27.4	26.8	7.3- 13.7
DISSOLVED OXYGEN (MG/L)												
SURFACE - DEPTH**	0	----- -----	-----	----- -----	6	5.4- 8.8	8.6	1.5- 1.5	6	3.4- 7.2	5.4	1.5- 1.5
MAX DEPTH**	1	8.0- 8.0	8.0	5.0- 5.8	6	2.4- 8.0	5.6	7.6- 14.0	6	0.1- 5.2	4.3	7.3- 13.7
CONDUCTIVITY (MMHOS)												
SURFACE - DEPTH**	1	750- 750	750	0.0- 0.0	12	60- 90	81	0.0- 1.5	12	120- 150	130	0.0- 1.5
MAX DEPTH**	1	750- 750	750	5.0- 5.8	6	90- 90	90	7.6- 14.0	6	117- 151	138	7.3- 13.7
PH (STANDARD UNITS)												
SURFACE - DEPTH**	1	7.0- 7.0	7.0	0.0- 0.0	12	6.8- 7.0	6.9	0.0- 1.5	12	7.0- 9.1	7.0	0.0- 1.5
MAX DEPTH**	1	7.5- 7.5	7.5	5.0- 5.8	6	6.9- 7.0	6.9	7.6- 14.0	6	6.8- 7.5	7.1	7.3- 13.7
TOTAL ALKALINITY (MG/L)												
SURFACE - DEPTH**	1	27.- 27.	27.	0.0- 0.0	12	25.- 36.	34.	0.0- 1.5	12	44.- 58.	46.	0.0- 1.5
MAX DEPTH**	1	27.- 27.	27.	5.0- 5.8	6	25.- 35.	31.	7.6- 14.0	6	43.- 60.	46.	7.3- 13.7
TOTAL P (MG/L)												
SURFACE - DEPTH**	1	0.140-0.140	0.140	0.0- 0.0	12	0.645-0.136	0.087	0.0- 1.5	12	0.045-0.167	0.078	0.0- 1.5
MAX DEPTH**	1	0.136-0.136	0.136	5.0- 5.8	6	0.036-0.162	0.693	7.6- 14.0	6	0.037-0.120	0.078	7.3- 13.7
DISSOLVED ORTHO P (MG/L)												
SURFACE - DEPTH**	1	0.035-0.035	0.035	0.0- 0.0	12	0.005-0.038	0.028	0.0- 1.5	12	0.007-0.115	0.014	0.0- 1.5
MAX DEPTH**	1	0.034-0.034	0.034	5.0- 5.8	6	0.004-0.046	0.033	7.6- 14.0	6	0.004-0.041	0.017	7.3- 13.7
NO3-N (MG/L)												
SURFACE - DEPTH**	1	0.270-0.270	0.270	0.0- 0.0	12	0.050-0.250	0.200	0.0- 1.5	12	0.030-0.300	0.040	0.0- 1.5
MAX DEPTH**	1	0.270-0.270	0.270	5.0- 5.8	6	0.130-0.430	0.245	7.6- 14.0	6	0.030-0.300	0.075	7.3- 13.7
AMMONIA (MG/L)												
SURFACE - DEPTH**	1	0.140-0.140	0.140	0.0- 0.0	12	0.050-0.150	0.100	0.0- 1.5	12	0.030-0.090	0.040	0.0- 1.5
MAX DEPTH**	1	0.110-0.110	0.110	5.0- 5.8	6	0.026-0.210	0.120	7.6- 14.0	6	0.040-0.160	0.110	7.3- 13.7
ORTHO P (MG/L)												
SURFACE - DEPTH**	1	0.400-0.400	0.400	0.0- 0.0	12	0.300-0.900	0.560	0.0- 1.5	12	0.500-1.000	0.600	0.0- 1.5
MAX DEPTH**	1	0.400-0.400	0.400	5.0- 5.8	6	0.300-0.500	0.400	7.6- 14.0	6	0.500-0.700	0.600	7.3- 13.7
SECCHI DISC (METERS)												
	1	0.2- 0.2	0.2		6	0.2- 0.5	0.5		6	0.6- 0.9	0.7	

* N = NO. OF SAMPLES
** MAXIMUM DEPTH SAMPLED AT EACH SITE
*** N = NO. OF SITES SAMPLED ON THIS DATE

(10/30/73)

PARAMETER	NO*	RANGE	MEDIAN	MAX DEPTH (METERS)
TEMPERATURE (DEG. CENT.)				
0-1.5 M DEPTH	7	16.6- 17.5	17.5	0.0- 1.5
MAX DEPTH**	5	15.9- 17.7	16.0	0.0- 12.8
DISSOLVED OXYGEN (MG/L)				
0-1.5 M DEPTH	7	6.9- 8.2	7.2	0.0- 1.5
MAX DEPTH**	5	7.2- 8.2	7.4	0.0- 12.8
CONDUCTIVITY (UMHOS)				
0-1.5 M DEPTH	7	183.- 208.	194.	0.0- 1.5
MAX DEPTH**	5	183.- 203.	193.	0.0- 12.8
PH (STANDARD UNITS)				
0-1.5 M DEPTH	7	7.2- 7.6	7.3	0.0- 1.5
MAX DEPTH**	5	7.3- 7.6	7.5	0.0- 12.8
TOTAL ALKALINITY (MG/L)				
0-1.5 M DEPTH	7	45.- 49.	59.	0.0- 1.5
MAX DEPTH**	5	45.- 94.	50.	0.0- 12.8
TOTAL P (MG/L)				
0-1.5 M DEPTH	7	0.076-0.137	0.097	0.0- 1.5
MAX DEPTH**	5	0.066-0.150	0.117	0.0- 12.8
DISSOLVED ORTHO P (MG/L)				
0-1.5 M DEPTH	7	0.062-0.077	0.066	0.0- 1.5
MAX DEPTH**	5	0.061-0.077	0.065	0.0- 12.8
NO2+NO3 (MG/L)				
0-1.5 M DEPTH	7	0.062-0.160	0.110	0.0- 1.5
MAX DEPTH**	5	0.060-0.150	0.100	0.0- 12.8
AMMONIA (MG/L)				
0-1.5 M DEPTH	7	0.060-0.140	0.120	0.0- 1.5
MAX DEPTH**	5	0.060-0.140	0.110	0.0- 12.8
ORGANIC N (MG/L)				
0-1.5 M DEPTH	7	0.400-0.500	0.590	0.0- 1.5
MAX DEPTH**	5	0.400-0.700	0.400	0.0- 12.8
SECCHI DISC (METERS)	5	0.3- 0.4	0.3	

* % = % OF SAMPLES
** MAXIMUM DEPTH SAMPLED AT EACH SITE
*** S = NO. OF SITES SAMPLED ON THIS DATE

TECHNICAL REPORT DATA *(Please read Instructions on the reverse before completing)*		
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4. TITLE AND SUBTITLE Report on Weiss Reservoir, Cherokee County, Alabama		5. REPORT DATE Prepared July 1976 6. PERFORMING ORGANIZATION CODE
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15. SUPPLEMENTARY NOTES

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16. ABSTRACT

Annual total phosphorus and total nitrogen loadings to the lake were estimated and subdivided according to either point or non-point source origin. An assessment of the lake's trophic condition and limiting nutrient is also provided. All data collected by the U.S.E.P.A. National Eutrophication Survey during the one year study of the lake and its tributaries are included in the report.

PRICES SUBJECT TO CHANGE

17. KEY WORDS AND DOCUMENT ANALYSIS

a. DESCRIPTORS	b. IDENTIFIERS/OPEN ENDED TERMS	c. COSATI Field/Group
eutrophication lakes nutrients phosphorus nitrogen loading		05B 05C

18. DISTRIBUTION STATEMENT	19. SECURITY CLASS (This Report)	21. NO. OF PAGES
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B. Biological Characteristics:

1. Phytoplankton -

Sampling Date	Dominant Genera	Algal Units per ml
03/19/73	1. Melosira	1,029
	2. Synedra	250
	3. Dinobryon	209
	4. Cyclotella	181
	5. Cryptomonas	125
	Other genera	515
	Total	2,309
08/25/73	1. Melosira	3,829
	2. Flagellates	1,650
	3. Oscillatoria	1,585
	4. Cyclotella	858
	5. Lyngbya	792
	Other genera	3,500
	Total	12,214
10/30/73	1. Melosira	6,072
	2. Cyclotella	1,291
	3. Flagellates	1,291
	4. Dactylococcopsis	1,252
	5. Synedra	607
	Other genera	1,935
	Total	12,448

2. Chlorophyll *a* -

Sampling Date	Station Number	Chlorophyll *a* (µg/liter)
03/19/73	1	3.6
06/08/73	1	6.9
	2	8.4
	3	10.8
	4	6.5
	5	9.4
	6	6.7
08/25/73	1	9.7
	2	21.4
	3	22.0
	4	18.8
	5	12.6
	6	3.7
10/30/73	1	4.1
	2	6.0
	3	9.8
	4	25.2
	5	----
	6	17.1

C. Limiting Nutrient Study:

1. Stations 1 through 4 -

a. Autoclaved, filtered, and nutrient spiked

Spike(mg/l)	Ortho P Conc.(mg/l)	Inorganic N Conc.(mg/l)	Maximum Yield (mg/l-dry wt.)
Control	0.020	0.178	5.7
0.010 P	0.030	0.178	7.3
0.020 P	0.040	0.178	6.6
0.050 P	0.070	0.178	7.7
0.025 P + 0.5 N	0.045	0.678	16.3
0.050 P + 1.0 N	0.070	1.178	28.0
1.0 N	0.020	1.178	8.5

b. Filtered and nutrient spiked

Spike(mg/l)	Ortho P Conc.(mg/l)	Inorganic N Conc.(mg/l)	Maximum Yie.d (mg/l-dry wt.)
Control	0.018	0.205	4.9
0.010 P	0.028	0.205	5.6
0.020 P	0.038	0.205	5.6
0.050 P	0.068	0.205	5.6
0.025 P + 0.5 N	0.043	0.705	12.5
0.050 P + 1.0 N	0.068	1.205	29.0
1.0 N	0.018	1.205	6.1

2. Stations 5 and 6 -

a. Autoclaved, filtered, and nutrient spiked

Spike(mg/l)	Ortho P Conc.(mg/l)	Inorganic N Conc.(mg/l)	Maximum Yield (mg/l-dry wt.)
Control	0.044	0.262	6.2
0.010 P	0.054	0.262	5.9
0.020 P	0.064	0.262	5.5
0.050 P	0.094	0.262	7.8
0.025 P + 0.5 N	0.069	0.762	16.6
0.050 P + 1.0 N	0.094	1.262	26.9
1.0 N	0.044	1.262	13.4

b. Filtered and nutrient spiked

Spike(mg/l)	Ortho P Conc.(mg/l)	Inorganic N Conc.(mg/l)	Maximum Yield (mg/l-dry wt.)
Control	0.028	0.241	4.5
0.010 P	0.038	0.241	4.5
0.020 P	0.048	0.241	4.7
0.050 P	0.078	0.241	4.4
0.025 P + 0.5 N	0.053	0.741	10.7
0.050 P + 1.0 N	0.078	1.241	19.0
1.0 N	0.028	1.241	9.7

3. Discussion -

The results of the algal assays with Selenastrum capricornutum indicate that potential primary production was high in Weiss Reservoir at the time of sample analyses. In the Stations 1 through 4 sample, additions of either phosphorus or nitrogen alone resulted in moderate increases in yield, suggesting primary colimitation by the two nutrients. In the Stations 5 and 6 sample, increases in yield with the addition of nitrogen as well as a lack of response when only phosphorus was added indicate nitrogen limitation. In all samples, maximum growth potentials were achieved with the simultaneous addition of both phosphorus and nitrogen.

The N/P ratios in the field samples for Weiss Reservoir were 11/1 or less indicating the lake was nitrogen limited at all sampling periods (i.e., an N/P ratio of 14/1 or greater generally reflects phosphorus limitation).

IV. NUTRIENT LOADINGS
(See Appendix D for data)

For the determination of nutrient loadings, the Alabama National Guard collected monthly near-surface grab samples from each of the tributary sites indicated (see map), except for the high runoff months of January and February when two samples were collected. Sampling was begun in March 1973, and was completed in February 1974.

Through an interagency agreement, stream flow estimates for the year of sampling and a "normalized" or average year were provided by the Alabama District Office of USGS for the tributary sites nearest the lake.

In this report, nutrient loads for sampled tributaries* were determined by using a modification of a USGS computer program for calculating stream loadings. Nutrient loads indicated for tributaries are those measured minus known point source loads, if any.

Nutrient loadings for Big Cedar Creek, the Chattooga River, and the unsampled "minor tributaries and immediate drainage" ("ZZ" of USGS) were estimated by using the mean annual nutrient loads, in $kg/km^2/yr$, at Stations B(1), C(1), G(1), H(1), and J(1), and multiplying the means by the appropriate area in km^2.

*With the exception of Big Cedar Creek and the Chattooga River, Stations D(1) and K(1).

The operators of the Rome, Cedartown, Burgess Manufacturing, Calhoun, Trion (all in Georgia), and Summerville wastewater treatment plants provided monthly effluent samples and corresponding flow data. Nutrient loads for the Cave Springs wastewater treatment plant were estimated at 1.134 kg P and 3.401 kg N/capita/yr.

A. Waste Sources:

1. Known municipal -

Name	Population Served	Treatment	Mean Flow ($m^3/d \times 10^3$)	Receiving Water
Rome (Georgia)	60,000	1.	25.893	Coosa River
Cedartown (Georgia)	7,000	1.	3.696	Big Cedar Creek
Cave Springs	1,305*	2.	0.494**	Cedar Creek
Burgess Manufacturing (Georgia)	150	3.	0.038	Chattooga River
Summerville†	4,000	2.	4.164	Mt. Hope Creek
Trion (Georgia)	50,500	2.	15.659	Chattooga River
Calhoun (Georgia)	70,000	1.	22.488	Oostanaula River

Key: 1. Trickling filter
2. Activated sludge
3. Stabilization pond

*1970 Census.
**Estimated at 0.3785 m^3/capita/day.
†Plant receives 50% industrial waste (carpet mill).

B. Annual Total Phosphorus Loading - Average Year:

1. Inputs -

Source	kg P/yr	% of total
a. Tributaries (nonpoint load) -		
A(1) Coosa River	844,420	73.1
B(1) Mt. Hope Creek	280	<0.1
C(1) King Creek	165	<0.1
D(1) Big Cedar Creek	9,695	0.8
E(1) Mud Creek	370	<0.1
F(1) Spring Creek (south)	1,390	0.1
G(1) Yellow Creek	2,400	0.2
H(1) Little River	8,215	0.7
J(1) Spring Creek (north)	2,850	0.3
K(1) Chattooga River	18,550	1.6
b. Minor tributaries and immediate drainage (nonpoint load) -	10,080	0.9
c. Known municipal STP's -		
Rome (Georgia)	96,135	8.3
Cedartown (Georgia)	8,915	0.8
Cave Springs	1,480	0.1
Burgess Manufacturing	50	<0.1
Summerville	19,345	1.7
Trion (Georgia)	18,160	1.6
Calhoun (Georgia)	110,505	9.6
d. Septic tanks* -	130	<0.1
e. Known industrial** - None		
f. Direct precipitation† -	2,140	0.2
Totals	1,155,275	100.0
2. Output - Coosa River	706,815	
3. Net annual P accumulation -	448,460	

*Estimate based on 465 lakeshore residences.
**See † footnote, page 14.
†Estimated (see NES Working Paper No. 175).

C. Annual Total Nitrogen Loading - Average Year:

1. Inputs -

Source	kg N/yr	% of total
a. Tributaries (nonpoint load) -		
A(1) Coosa River	6,456,340	73.6
B(1) Mt. Hope Creek	9,820	0.1
C(1) King Creek	9,315	0.1
D(1) Big Cedar Creek	314,795	3.6
E(1) Mud Creek	13,855	0.1
F(1) Spring Creek (south)	48,360	0.5
G(1) Yellow Creek	73,845	0.8
H(1) Little River	377,140	4.3
J(1) Spring Creek (north)	60,405	0.7
K(1) Chattooga River	602,440	6.9
b. Minor tributaries and immediate drainage (nonpoint load) -	327,320	3.7
c. Known municipal STP's -		
Rome (Georgia)	118,265	1.3
Cedartown (Georgia)	9,445	0.1
Cave Springs	4,440	0.1
Burgess Manufacturing	525	<0.1
Summerville	9,560	0.1
Trion (Georgia)	111,160	1.3
Calhoun (Georgia)	83,860	1.0
d. Septic tanks* -	4,955	1.0
e. Known industrial** - None		
f. Direct precipitation† -	131,950	1.5
Totals	8,767,795	100.0
2. Output - Coosa River	5,920,780	
3. Net annual N accumulation -	2,847,015	

*Estimate based on 465 lakeshore residences.
**See † footnote, page 14.
†Estimated (see NES Working Paper No. 175).

D. Mean Annual Nonpoint Nutrient Export by Subdrainage Area:

Tributary	kg P/km^2/yr	kg N/km^2/yr
Coosa River	79*	606
Mt. Hope Creek	12	430
King Creek	6	346
Big Cedar Creek	19	617
Mud Creek	16	582
Spring Creek (south)	13	439
Yellow Creek	30	920
Little River	16	750
Spring Creek (north)	30	639
Chattooga River	19	617

*Background phosphorus level for this river probably inflated by unmeasured point sources upstream (see discussion, page 3).

F. Yearly Loadings:

In the following table, the existing phosphorus annual loading is compared to the relationship proposed by Vollenweider (1975). Essentially, his eutrophic loading is that at which the receiving waters would become eutrophic or remain eutrophic; his oligotrophic loading is that which would result in the receiving water remaining oligotrophic or becoming oligotrophic if morphometry permitted. A mesotrophic loading would be considered one between eutrophic and oligotrophic.

Note that Vollenweider's model may not apply to lakes with short hydraulic retention times or in which light penetration is severely restricted by high concentrations of suspended solids in the surface waters.

	Total Yearly Phosphorus Loading ($g/m^2/yr$)
Estimated loading for Weiss Reservoir	9.45
Vollenweider's eutrophic loading	1.53
Vollenweider's oligotrophic loading	0.76

V. LITERATURE REVIEWED

U.S. Bureau of the Census. 1971. U.S. Census of Population: 1970 Number of Inhabitants, Final Report PC(1) A12 Georgia. U.S. Govt. Print. Off. Washington, D.C.

U.S. Environmental Protection Agency. 1975. National Eutrophication Survey Methods 1973-1976. Working Paper No. 175. National Environmental Research Center, Las Vegas, Nevada, and Pacific Northwest Environmental Research Laboratory, Corvallis, Oregon.

Vollenweider, R. A., 1975. Input-Output Models With Final Reference to the Phosphorus Loading Concept in Limnology. Schweiz. A. Hydrol. 37: 53-84.

VI. APPENDICES

APPENDIX A

CONVERSION FACTORS

CONVERSION FACTORS

Hectares x 2.471 = acres

Kilometers x 0.6214 = miles

Meters x 3.281 = feet

Cubic meters x 8.107×10^{-4} = acre/feet

Square kilometers x 0.3861 = square miles

Cubic meters/sec x 35.315 = cubic feet/sec

Centimeters x 0.3937 = inches

Kilograms x 2.205 = pounds

Kilograms/square kilometer x 5.711 = lbs/square mile

APPENDIX B

TRIBUTARY FLOW DATA

TRIBUTARY FLOW INFORMATION FOR ALABAMA 07/22/76

LAKE CODE 0112 WEISS RESERVOIR

TOTAL DRAINAGE AREA OF LAKE(SQ KM) 13649.3

TRIBUTARY	SUB-DRAINAGE AREA(SQ KM)	NORMALIZED FLOWS(CMS) JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	MEAN
0112A1	10650.1	235.88	319.98	404.93	300.16	208.98	116.38	120.35	93.45	83.82	72.49	120.63	154.61	185.21
0112A2	13649.3	342.89	387.37	466.38	390.60	307.18	168.57	153.25	121.11	117.06	134.14	159.59	289.65	252.53
0112A3	13649.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0112B1	22.8	0.50	0.76	0.82	0.65	0.34	0.23	0.22	0.17	0.16	0.14	0.21	0.32	0.37
0112C1	26.9	0.61	0.93	1.01	0.80	0.42	0.28	0.27	0.21	0.20	0.17	0.25	0.39	0.46
0112D1	510.2	10.76	16.17	17.56	13.93	7.28	4.93	4.79	3.65	3.43	2.97	4.39	6.88	8.08
0112E1	23.8	0.53	0.79	0.86	0.68	0.36	0.24	0.24	0.18	0.17	0.15	0.22	0.33	0.39
0112F1	110.1	1.67	2.55	3.40	2.18	1.64	0.57	0.51	0.65	0.48	0.51	0.51	0.65	1.27
0112G1	80.3	4.021	4.474	5.040	3.228	1.642	0.680	0.793	0.042	0.110	0.566	1.133	2.492	2.006
0112H1	502.5	25.32	27.98	31.71	20.33	10.19	4.30	4.87	1.36	1.84	3.51	7.08	15.49	12.76
0112J1	94.5	4.11	5.32	4.96	3.74	2.15	1.56	1.64	1.19	1.30	0.91	1.84	2.52	2.59
0112K1	976.4	38.21	40.92	37.52	27.07	14.50	10.08	10.79	7.45	8.18	5.47	12.18	17.39	18.34
0112Z1	652.7	17.92	24.92	26.62	18.55	12.06	6.51	6.57	5.89	5.38	4.59	6.94	9.46	12.04

SUMMARY

TOTAL DRAINAGE AREA OF LAKE = 13649.3
SUM OF SUB-DRAINAGE AREAS = 13650.3

TOTAL FLOW IN = 2934.99
TOTAL FLOW OUT = 3037.80

MEAN MONTHLY FLOWS AND DAILY FLOWS(CMS)

TRIBUTARY	MONTH	YEAR	MEAN FLOW	DAY	FLOW	DAY	FLOW	DAY	FLOW
0112A1	3	73	447.406	3	165.937				
	4	73	467.228	5	336.970	8	761.723		
	5	73	467.228						
	6	73	402.099	2	764.555				
	7	73	153.194	1	116.949				
	8	73	109.586	5	75.040				
	9	73	116.849	8	103.356				
	10	73	122.329	13	115.533				
	11	73	138.186	3	109.869				
	12	73	222.287	9	164.804				
	1	74	600.317	5	758.891	19	540.652		
	2	74	498.376	2	379.446	16	620.139		
0112A2	3	73	547.478	3	138.186				
	4	73	542.634	8	695.745				
	5	73	519.048	5	227.161				
	6	73	438.600	2	2137.639				
	7	73	201.644	1	0.0				
	8	73	140.225	4	0.0				
	9	73	112.928	8	111.882				
	10	73	152.968	13	0.0				
	11	73	187.314	4	31.149				
	12	73	357.953	9	96.844				
	1	74	715.963	5	730.868	19	729.159		
	2	74	679.268	2	662.614	16	736.804		

TRIBUTARY FLOW INFORMATION FOR ALABAMA 01/22/76

LAKE CODE 0112 WEISS RESERVOIR

MEAN MONTHLY FLOWS AND DAILY FLOWS(CMS)

TRIBUTARY	MONTH	YEAR	MEAN FLOW	DAY	FLOW	DAY	FLOW	DAY	FLOW
0112A3	3	73	49.724	3	0.0				
	4	73	47.714	8	0.0				
	5	73	59.522	5	0.0				
	6	73	0.906	2	0.0				
	7	73	0.0	1	0.0				
	8	73	0.0	4	0.0				
	9	73	0.0	8	0.0				
	10	73	0.0	13	0.0				
	11	73	0.0	4	0.0				
	12	73	0.0	9	0.0				
	1	74	33.244	5	0.0	19	0.0		
	2	74	0.0	2	0.0	16	0.0		
0112M1	3	73	1.472	3	0.566				
	4	73	1.756	5	0.874	8	2.832		
	5	73	1.133						
	6	73	0.510	2	0.453				
	7	73	0.269	1	0.311				
	8	73	0.181	5	0.210				
	9	73	0.249	8	0.190				
	10	73	0.244	13	0.238				
	11	73	0.221	3	0.244				
	12	73	0.311	9	0.232				
	1	74	0.878	5	0.906	19	0.481		
	2	74	1.019	2	0.510	16	1.841		
0112C1	3	73	1.784	3	0.680				
	4	73	2.152	5	1.246	8	8.495		
	5	73	1.388						
	6	73	0.651	2	0.510				
	7	73	0.340	1	0.255				
	8	73	0.224	5	0.142				
	9	73	0.258	8	0.122				
	10	73	0.283	13	0.176				
	11	73	0.269	3	0.181				
	12	73	0.368	9	0.170				
	1	74	1.076	5	1.388	19	0.538		
	2	74	1.246	2	0.595	16	4.248		
0112D1	3	73	31.149	3	11.893				
	4	73	37.661	5	19.858	8	76.455		
	5	73	24.813						
	6	73	11.213	2	9.628				
	7	73	5.748	1	5.890				
	8	73	3.988	5	3.823				
	9	73	4.531	8	3.398				
	10	73	5.210	13	4.474				
	11	73	4.761	3	4.531				
	12	73	6.599	9	4.332				
	1	74	18.972	5	20.671	19	9.911		
	2	74	21.662	2	10.760	16	89.198		

TRIBUTARY FLOW INFORMATION FOR ALABAMA 07/22/76

LAKE CODE 0112 WEISS RESERVOIR

MEAN MONTHLY FLOWS AND DAILY FLOWS(CMS)

TRIBUTARY	MONTH	YEAR	MEAN FLOW	DAY	FLOW	DAY	FLOW	DAY	FLOW
0112E1	3	73	1.529	3	3.566				
	4	73	1.841	5	0.878	8	2.832		
	5	73	1.189						
	6	73	0.538	2	0.453				
	7	73	0.283	1	0.311				
	8	73	0.190	5	0.210				
	9	73	0.221	8	0.190				
	10	73	0.258	13	0.238				
	11	73	0.229	3	0.244				
	12	73	0.311	9	0.232				
	1	74	0.934	5	0.906	19	0.481		
	2	74	1.076	2	0.510	16	1.841		
0112F1	3	73	3.256	3	1.756				
	4	73	3.681	8	8.212				
	5	73	2.690	5	1.642				
	6	73	1.019	2	1.189				
	7	73	0.623	1	0.623				
	8	73	0.425	5	0.368				
	9	73	0.311	8	0.269				
	10	73	0.368	13	0.204				
	11	73	0.453	3	0.255				
	12	73	0.538	9	0.340				
	1	74	2.832	5	5.380	19	1.048		
	2	74	2.549	2	1.189	16	6.654		
0112G1	3	73	9.345	3	7.646				
	4	73	5.239	8	9.911				
	5	73	4.814	5	1.274				
	6	73	1.416	2	1.501				
	7	73	0.283	1	0.102				
	8	73	0.125	4	0.002				
	9	73	0.005	8	0.0				
	10	73	0.018	13	0.0				
	11	73	2.690	4	0.062				
	12	73	4.814	9	2.322				
	1	74	7.929	5	8.778	19	4.163		
	2	74	7.079	2	7.646	16	21.238		
0112H1	3	73	57.115	3	48.139				
	4	73	32.508	8	62.580				
	5	73	30.667	5	7.929				
	6	73	9.090	2	9.345				
	7	73	2.265	1	1.784				
	8	73	1.444	4	0.510				
	9	73	0.224	8	0.215				
	10	73	0.481	13	0.275				
	11	73	16.707	4	0.963				
	12	73	29.731	9	14.555				
	1	74	49.838	5	54.652	19	26.250		
	2	74	44.457	2	48.139	16	131.956		

TRIBUTARY FLOW INFORMATION FOR ALABAMA 07/22/76

LAKE CODE 0112 WEISS RESERVOIR

MEAN MONTHLY FLOWS AND DAILY FLOWS(CMS)

TRIBUTARY	MONTH	YEAR	MEAN FLOW	DAY	FLOW	DAY	FLOW	DAY	FLOW
0112J1	3	73	10.194	3	5.947				
	4	73	5.097	8	10.619				
	5	73	6.286	5	2.265				
	6	73	3.115	2	3.341				
	7	73	1.642	1	1.642				
	8	73	1.189	4	1.104				
	9	73	1.359	8	0.878				
	10	73	0.934	13	0.708				
	11	73	2.435	4	0.821				
	12	73	3.794	9	2.407				
	1	74	6.938	5	6.938	19	3.794		
	2	74	6.230	2	6.938	16	13.026		
0112K1	3	73	87.782	3	47.855				
	4	73	40.493	8	92.313				
	5	73	50.970	5	15.744				
	6	73	22.653	2	24.494				
	7	73	11.044	1	11.015				
	8	73	7.646	4	7.051				
	9	73	8.778	8	5.352				
	10	73	5.465	13	4.134				
	11	73	12.176	3	4.814				
	12	73	17.387	9	16.990				
	1	74	30.214	5	56.917	19	28.883		
	2	74	40.918	2	56.917	16	116.099		
0112Z2	3	73	43.183	3	23.984				
	4	73	28.062	8	59.975				
	5	73	28.175	5	12.374				
	6	73	12.459	2	13.819				
	7	73	6.853	1	6.909				
	8	73	4.899	4	4.361				
	9	73	4.757	8	3.341				
	10	73	3.993	13	2.605				
	11	73	8.297	3	3.115				
	12	73	12.771	9	7.815				
	1	74	30.327	5	39.191	19	14.781		
	2	74	26.873	2	25.032	16	63.288		

APPENDIX C

PHYSICAL AND CHEMICAL DATA

STORET RETRIEVAL DATE 76/07/22

011201
34 07 58.0 085 47 34.0 3
WEISS RESERVOIR
01015 ALABAMA

033591

FEMALES 2111202
0035 FEET DEPTH CLASS 00

DATE FROM TO	TIME OF DAY	DEPTH FEET	00010 WATER TEMP CENT	00300 DO MG/L	01077 TRANSP SECCHI INCHES	00094 CNDUCTVY FIELD MICROMHO	00400 PH SU	00410 T ALK CACO3 MG/L	00610 NH3-N TOTAL MG/L	00625 TOT KJEL N MG/L	00630 NO2&NO3 N-TOTAL MG/L	00671 PHOS-DIS ORTHO MG/L P
73/03/19	11 00	0000	14.4		6	85	7.40	27	0.140	0.600	0.280	0.035
	11 00	0005	14.6	8.4		75	7.50	26	0.110	0.400	0.270	0.035
	11 00	0015	14.4	8.4		75	7.50	27	0.110	0.400	0.270	0.034
73/05/07	14 15	0000	25.3		19	81	7.00	35	0.150	0.600	0.220	0.034
	14 15	0005	25.2	5.4		81	6.90	36	0.130	0.300	0.200	0.032
	14 15	0015	25.1	5.6		80	6.90	36	0.120	0.400	0.190	0.032
	14 15	0030	25.0	5.6		80	6.90	36	0.020	0.400	0.430	0.044
73/08/25	09 50	0000	28.4		34	120	7.10	45	0.040	0.900	0.040	0.010
	09 50	0005	28.2	4.6		121	7.00	45	0.040	0.600	0.040	0.012
	09 50	0015	27.9	7.2		127	6.90	45	0.080	0.600	0.050	0.009
	09 50	0027	27.4	4.2		117	6.60	45	0.160	0.700	0.060	0.012
73/10/30	13 00	0000	17.5		37	114	7.20	50	0.140	0.500	0.140	0.043
	13 00	0005	17.5	7.2		114	7.20	49	0.140	0.400	0.120	0.042
	13 00	0015	17.5	7.0		113	7.10	50	0.130	0.400	0.120	0.041
	13 00	0026	17.3	7.2		113	7.10	50	0.140	0.400	0.120	0.041

DATE FROM TO	TIME OF DAY	DEPTH FEET	00665 PHOS-TOT MG/L P	32217 CHLRPHYL A UG/L
73/03/19	11 00	0000	0.140	3.6
	11 00	0005	0.122	
	11 00	0015	0.134	
73/05/07	14 15	0000	0.087	6.9
	14 15	0005	0.087	
	14 15	0015	0.081	
	14 15	0030	0.085	
73/08/25	09 50	0000	0.055	9.7
	09 50	0005	0.045	
	09 50	0015	0.038	
	09 50	0027	0.037	
73/10/30	13 00	0000	0.070	4.1
	13 00	0005	0.077	
	13 00	0015	0.070	
	13 00	0026	0.080	

STORET RETRIEVAL DATE 73/07/22

011202
34 10 27.0 085 45 16.0 3
WEISS RESERVOIR
01015 ALABAMA

033591

TIEPALES 2111202
0050 FEET DEPTH CLASS 00

DATE FROM TO	TIME OF DAY	DEPTH FEET	00010 WATER TEMP CENT	00300 DO MG/L	00077 TRANSP SECCHI INCHES	00094 CNDUCTVY FIELD MICROMHO	00400 PH SU	00410 T ALK CACO3 MG/L	00610 NH3-N TOTAL MG/L	00625 TOT KJEL N MG/L	00630 NO2&NO3 N-TOTAL MG/L	00671 PHOS-DIS ORTHO MG/L P
73/06/07	14 50	0000	25.2		1M	80	6.40	28	0.140	0.600	0.200	0.034
	14 50	0005	25.3	5.8		80	6.40	28	0.120	0.300	0.200	0.034
	14 50	0015	25.2	5.6		80	6.45	27	0.120	0.300	0.190	0.032
	14 50	0030	25.6	5.4		80	6.40	31	0.120	0.300	0.190	0.035
	14 50	0046	24.9	5.2		80	6.40	28	0.120	0.300	0.190	0.032
73/06/25	10 40	0000	25.2		3C	132	7.30	51	0.040	0.600	0.040	0.008
	10 40	0005	25.2	6.4		133	7.40	46	0.040	0.600	0.030	0.013
	10 40	0020	25.2	6.0		134	7.00	45	0.050	0.600	0.040	0.010
	10 40	0045	27.3	4.0		138	7.10	47	0.120	0.600	0.030	0.012
73/10/30	12 35	0000	17.8		2C	117	7.40	50	0.130	0.500	0.110	0.045
	12 35	0005	17.8	6.4		117	7.40	50	0.120	0.500	0.110	0.044
	12 35	0015	17.7	7.2		117	7.30	49	0.120	0.400	0.110	0.044
	12 35	0025	17.7	7.0		117	7.20	48	0.120	0.500	0.100	0.047
	12 35	0042	17.7	6.9		116	7.10	51	0.130	0.400	0.100	0.048

DATE FROM TO	TIME OF DAY	DEPTH FEET	00665 PHOS-TOT MG/L P	32217 CHLRPHYL A UG/L
73/06/07	14 50	0000	0.046	8.4
	14 50	0005	0.049	
	14 50	0015	0.047	
	14 50	0030	0.048	
	14 50	0046	0.044	
73/06/25	10 40	0000	0.059	21.4
	10 40	0005	0.061	
	10 40	0020	0.056	
	10 40	0045	0.057	
73/10/30	12 35	0000	0.047	6.0
	12 35	0005	0.074	
	12 35	0015	0.046	
	12 35	0025	0.046	
	12 35	0042	0.044	

STORET RETRIEVAL DATE 76/07/22

011203
34 14 35.0 085 38 55.0 3
WEISS RESERVOIR
01019 ALABAMA

033591

11EPALES 2111202
0026 FEET DEPTH CLASS 00

DATE FROM TO	TIME OF DAY	DEPTH FEET	00010 WATER TEMP CENT	00300 DO MG/L	00077 TRANSP SECCHI INCHES	00094 CNDUCTVY FIELD MICROMHO	00400 PH SU	00410 T ALK CACO3 MG/L	00610 NH3-N TOTAL MG/L	00625 TOT KJEL N MG/L	00630 NO2&NO3 N-TOTAL MG/L	00671 PHOS-DIS ORTHO MG/L P
73/06/07	15 35	0000	25.2		20	90	6.90	33	0.100	0.400	0.200	0.029
	15 35	0005	24.5	6.6		90	6.90	34	0.090	0.300	0.190	0.027
	15 35	0015	24.1	6.0		90	6.90	33	0.120	0.400	0.210	0.030
	15 35	0026	24.0	5.6		90	6.90	34	0.110	0.300	0.200	0.024
73/08/25	11 05	0000	27.5		25	136	7.80	47	0.040	0.500	0.030	0.020
	11 05	0005	27.3	6.8		138	7.50	48	0.040	0.600	0.040	0.017
	11 05	0015	27.2	6.2		139	7.40	48	0.070	0.700	0.040	0.020
	11 05	0034	26.6	4.4		139		48	0.150	0.700	0.070	0.022
73/10/30	12 00	0000	16.1		16	109	7.60	48	0.110	0.500	0.160	0.077
	12 00	0010	16.1	7.0		109	7.50	48	0.090	0.300	0.150	0.075
	12 00	0025	16.1	8.0		109	7.40	47	0.100	0.300	0.160	0.078
	12 00	0036	16.0	7.8		109	7.50	49	0.110	0.400	0.150	0.077

DATE FROM TO	TIME OF DAY	DEPTH FEET	00665 PHOS-TOT MG/L P	32217 CHLRPHYL A UG/L
73/06/07	15 35	0000	0.094	10.8
	15 35	0005	0.084	
	15 35	0015	0.092	
	15 35	0026	0.093	
73/08/25	11 05	0000	0.099	22.0
	11 05	0005	0.096	
	11 05	0015	0.084	
	11 05	0034	0.091	
73/10/30	12 00	0000	0.137	9.8
	12 00	0010	0.139	
	12 00	0025	0.152	
	12 00	0036	0.141	

STORET RETRIEVAL DATE 76/07/22

011204
34 11 48.0 085 39 57.0 3
WEISS RESERVOIR
01019 ALABAMA

033591

11EPALES 2111202
0029 FEET DEPTH CLASS 00

DATE FROM TO	TIME OF DAY	DEPTH FEET	00010 WATER TEMP CENT	00300 DO MG/L	00077 TRANSP SECCHI INCHES	00094 CNDUCTVY FIELD MICROMHO	00400 PH SU	00410 T ALK CACO3 MG/L	00610 NH3-N TOTAL MG/L	00625 TOT KJEL N MG/L	00630 NO2&NO3 N-TOTAL MG/L	00671 PHOS-DIS ORTHO MG/L P
73/06/08	10 00	0000	26.2		21	85	7.40	34	0.070	0.900	0.070	0.006
	10 00	0005	26.1	8.8		80	7.20	35	0.060	0.500	0.050	0.005
	10 00	0015	23.4	3.8		60	7.20	27	0.090	0.400	0.130	0.005
	10 00	0025	20.9	2.4		80	7.00	36	0.210	0.400	0.130	0.004
73/08/25	13 05	0000	29.4		26	156	8.90	58	0.040	1.000	0.040	0.009
	13 05	0005	27.5	3.4		151	7.60	57	0.030	0.700	0.030	0.007
	13 05	0015	26.4	2.2		137	7.10	52	0.060	0.500	0.040	0.005
	13 05	0024	25.4	0.1		151	7.10	64	0.100	0.600	0.080	0.009
73/10/30	11 40	0000	16.0		18	204	7.80	97	0.060	0.500	0.050	0.044
	11 40	0008	15.9	7.8		203	7.90	98	0.060	0.700	0.040	0.043

DATE FROM TO	TIME OF DAY	DEPTH FEET	00665 PHOS-TOT MG/L P	32217 CHLRPHYL A UG/L
73/06/08	10 00	0000	0.050	6.5
	10 00	0005	0.045	
	10 00	0015	0.039	
	10 00	0025	0.032	
73/08/25	13 05	0000	0.056	18.8
	13 05	0005	0.052	
	13 05	0015	0.058	
	13 05	0024	0.066	
73/10/30	11 40	0000	0.134	25.2
	11 40	0008	0.150	

STORET RETRIEVAL DATE 76/07/22

011205
34 09 30.0 085 36 12.0 3
WEISS RESERVOIR
01015 ALABAMA
033591

11EPALES 2111202
0034 FEET DEPTH CLASS 00

DATE FROM TO	TIME OF DAY	DEPTH FEET	00010 WATER TEMP CENT	00300 DO MG/L	00077 TRANSP SECCHI INCHES	00094 CNDUCTVY FIELD MICROMHO	00400 PH SU	00410 T ALK CACO3 MG/L	00610 NH3-N TOTAL MG/L	00625 TOT KJEL N MG/L	00630 NO2&NO3 N-TOTAL MG/L	00671 PHOS-DIS ORTHO MG/L P
73/06/08	10 40	0000	24.6		20	80	7.00	35	0.050	0.700	0.150	0.017
	10 40	0005	23.1	6.6		80	7.00	25	0.060	0.500	0.200	0.026
	10 40	0010	22.2	6.4		80	7.00	26	0.070	0.400	0.230	0.032
	10 40	0015	22.2	6.0		80	7.00	24	0.070	0.500	0.230	0.035
	10 40	0030	21.9	5.8		80	7.00	25	0.130	0.500	0.290	0.034
73/08/25	13 40	0000	28.7		32	136	9.10	45	0.050	0.600	0.040	0.016
	13 40	0005	27.2	7.2		135	7.50	44	0.040	0.800	0.070	0.040
	13 40	0015	26.7	4.6		133	7.20	45	0.100	0.600	0.220	0.048
	13 40	0025	26.6	4.7		133	7.50	45	0.100	0.600	0.180	0.037

DATE FROM TO	TIME OF DAY	DEPTH FEET	00665 PHOS-TOT MG/L P	32217 CHLRPHYL A UG/L
73/06/08	10 40	0000	0.075	9.4
	10 40	0005	0.092	
	10 40	0010	0.117	
	10 40	0015	0.120	
	10 40	0030	0.162	
73/08/25	13 40	0000	0.100	12.6
	13 40	0005	0.115	
	13 40	0015	0.116	
	13 40	0025	0.096	

STORET RETRIEVAL DATE 76/07/22

011206
34 13 57.0 085 30 15.0 3
WEISS RESERVOIR
01019 ALABAMA

033591

11EPALES 2111202
0034 FEET DEPTH CLASS 00

DATE FROM TO	TIME OF DAY	DEPTH FEET	00010 WATER TEMP CENT	00300 DO MG/L	00077 TRANSP SECCHI INCHES	00094 CNDUCTVY FIELD MICROMHO	00400 PH SU	00410 T ALK CACO3 MG/L	00610 NH3-N TOTAL MG/L	00625 TOT KJEL N MG/L	00630 NO2&NO3 N-TOTAL MG/L	00671 PHOS-DIS ORTHO MG/L P
73/06/08	11 10	0000	22.4		8	85	6.90	25	0.100	0.600	0.240	0.023
	11 10	0005	22.0	6.6		82	7.00	27	0.100	0.500	0.250	0.038
	11 10	0015	21.6	6.4		80	7.00	27	0.110	0.600	0.270	0.045
	11 10	0030	21.5	6.4		80	7.00	26	0.120	0.500	0.300	0.046
73/08/25	13 55	0000	27.3		26	138	7.30	45	0.080	0.700	0.300	0.115
	13 55	0005	27.2	5.0		136	7.20	46	0.080	0.600	0.300	0.100
	13 55	0015	27.0	5.2		136	7.10	45	0.080	0.600	0.300	0.092
	13 55	0028	27.0	5.0		138	7.20	45	0.080	0.500	0.300	0.081
73/10/30	12 20	0000	16.0	8.2	13	183	7.50	45	0.080	0.500	0.090	0.045

DATE FROM TO	TIME OF DAY	DEPTH FEET	00665 PHOS-TOT MG/L P	32217 CHLRPHYL A UG/L
73/06/08	11 10	0000	0.087	6.7
	11 10	0005	0.136	
	11 10	0015	0.146	
	11 10	0030	0.148	
73/08/25	13 55	0000	0.167	3.7
	13 55	0005	0.154	
	13 55	0015	0.145	
	13 55	0028	0.120	
73/10/30	12 20	0000	0.117	17.1

37

APPENDIX D

TRIBUTARY AND WASTEWATER TREATMENT PLANT DATA

STORET RETRIEVAL DATE 76/07/22

0112A1 13X2A1
34 15 00.0 085 21 30.0 4
COOSA RIVER
01 7.5 LIVINGSTON G
I/WEISS RESVR 033591
BRDG ON GA RT 100 W OF ROME
11EPALES 2111204
0006 FEET DEPTH CLASS 00

DATE FROM TO	TIME OF DAY	DEPTH FEET	00630 NO2&NO3 N-TOTAL MG/L	00625 TOT KJEL N MG/L	00610 NH3-N TOTAL MG/L	00671 PHOS-DIS ORTHO MG/L P	00665 PHOS-TOT MG/L P
73/03/03	14	30	0.270	1.100	0.096	0.165	0.250
73/04/05	15	30	0.250	2.700	0.090	0.054	0.115
73/04/04	10	30	0.270	1.150	0.138	0.062	0.200
73/06/02	15	45	0.132	2.200	0.560	0.042	0.125
73/07/01	08	55	0.220	1.700	0.105	0.113	0.175
73/08/05	10	15	0.210	0.350	0.067	0.125	0.185
73/09/08	10	15	0.220	0.870	0.110	0.140	0.250
73/10/13	16	50	0.200	0.420	0.062	0.138	0.200
73/11/03	16	20	0.150	0.550	0.052		0.350
73/12/09	10	50	0.216	0.300	0.016	0.048	0.160
74/01/05	11	45	0.240	0.900	0.076	0.040	0.115
74/01/19	10	45	0.312	0.200	0.032	0.040	0.120
74/02/02	10	50	0.300	0.200	0.025	0.045	0.115
74/02/16	10	45	0.240	0.500	0.020	0.045	0.195

STORET RETRIEVAL DATE 75/07/22

0112A2 LS0112A2
37 08 00.0 085 47 30.0 4
COOSA RIVER
01 7.5 LEESBURG
O/WEISS RESVR 051691
BELO DAM ACROSS LAKE AND SW OF LEESBURG
11EPALES 2111204
0000 FEET DEPTH CLASS 00

DATE FROM TO	TIME OF DAY	DEPTH FEET	00630 NO2&NO3 N-TOTAL MG/L	00625 TOT KJEL N MG/L	00610 NH3-N TOTAL MG/L	00671 PHOS-DIS ORTHO MG/L P	00665 PHOS-TOT MG/L P
73/03/03	04 20		0.220	0.675	0.046	0.058	0.095
73/04/08	08 50		0.231	1.570	0.075	0.040	0.090
73/05/05	14 45		0.150	3.600	0.115	0.022	0.080
73/06/02	14 30		0.150	0.560	0.096	0.048	0.137
73/07/01	08 05		0.022	0.460	0.024	0.012	0.045
73/08/04	18 10		0.010K	0.600	0.014	0.006	0.065
73/09/08	14 40		0.011	0.600	0.030	0.012	0.055
73/10/13	16 00		0.130	0.560	0.138	0.046	0.085
73/11/04	09 15		0.120	0.400	0.074	0.055	0.105
73/12/09	09 30		0.232	0.300	0.084	0.064	0.105
74/01/05	11 00		0.216	0.490	0.056	0.040	0.140
74/01/19	10 00		0.300	0.700	0.076	0.036	0.090
74/02/02	10 00		0.276	0.500	0.040	0.040	0.090
74/02/16	10 00		0.290	0.300	0.035	0.030	0.075

K VALUE KNOWN TO BE
LESS THAN INDICATED

STORET RETRIEVAL DATE 76/07/22

0112A3 LS0112A3
34 10 30.0 085 45 30.0 4
COOSA RIVER
01 7.5 LEESBURG
O/WEIS RESVR 033591
BELO WEISS DAM BEFOR CON WITH MAINSTREAM
11EPALES 211204
0000 FEET DEPTH CLASS 00

DATE FROM TO	TIME OF DAY	DEPTH FEET	00630 NO2&NO3 N-TOTAL MG/L	00625 TOT KJEL N MG/L	00610 NH3-N TOTAL MG/L	00671 PHOS-DIS ORTHO MG/L P	00665 PHOS-TOT MG/L P
73/03/03	09 40		0.200	0.720	0.042	0.042	0.085
73/04/08	09 05		0.220	1.260	0.058	0.039	0.090
73/05/05	15 00		0.154	1.050	0.048	0.025	0.085
73/06/02	15 00		0.140	0.690	0.092	0.046	0.135
73/07/01	08 24		0.071	0.520	0.115	0.021	0.055
73/08/04	17 45		0.092	0.520	0.154	0.024	0.065
73/09/04	14 15		0.018	0.480	0.113	0.012	0.060
73/10/13	16 15		0.180	0.620	0.138	0.046	0.080
73/11/04	09 00		0.120	0.550	0.110	0.050	0.090
73/12/04	09 00		0.224	0.406	0.072	0.064	0.110
74/01/05	10 45		0.240	0.800	0.100	0.040	0.130
74/01/19	09 35		0.300	0.200	0.040	0.036	0.045
74/02/02	09 00		0.300	0.400	0.070	0.045	0.090
74/02/16	09 40		0.276	0.200	0.030	0.030	0.075

STORET RETRIEVAL DATE 76/07/22

011201 13X241
34 15 00.0 085 24 30.0 4
MT HOPE CREEK
01 7.5 NELSON GA-AL
T/WEISS RESVR 033591
BRDG ON OLD RVR RD 2.8 MI E OF ALABAMA
11EPALES 2111204
0000 FEET DEPTH CLASS 00

DATE FROM TO	TIME OF DAY	DEPTH FEET	00630 NO2&NO3 N-TOTAL MG/L	00625 TOT KJEL N MG/L	00610 NH3-N TOTAL MG/L	00671 PHOS-DIS ORTHO MG/L P	00665 PHOS-TOT MG/L P
73/03/03	14	10	0.130	0.290	0.022	0.017	0.030
73/04/05	16	00	0.190	3.250	0.063	0.009	0.020
73/04/06	10	45	0.126	0.880	0.060	0.008	0.025
73/06/02	16	20	0.160	2.000	0.600	0.013	0.025
73/07/01	08	40	0.210	0.390	0.040	0.010	0.030
73/08/05	10	40	0.198	0.100K	0.027	0.017	0.020
73/09/04	10	35	0.230	0.290	0.034	0.005K	0.025
73/10/13	17	10	0.198	0.220	0.024	0.009	0.025
73/11/03	16	42	0.189	0.200	0.048		0.025
73/12/04	11	30	0.264	0.500	0.036	0.008	0.015
74/01/05	12	00	0.240	0.100	0.024	0.012	0.020
74/01/19	11	10	0.276	0.300	0.120	0.005	0.025
74/02/02	11	20	0.192	0.100K	0.010	0.010	0.025
74/02/16	11	00	0.108	0.500	0.030	0.015	0.075

K VALUE KNOWN TO BE
LESS THAN INDICATED

STORET RETRIEVAL DATE 76/07/22

0112C1 13X2C1
34 15 00.0 085 25 30.0 4
KING CREEK
01 7.5 CHATTOGAVILL
T/WEISS RESVR 033591
BRDG ON OLD RIVER RD 2 MI E OF ALABAMA
11EPALES 2111204
0000 FEET DEPTH CLASS 00

DATE FROM TO	TIME OF DAY	DEPTH FEET	00630 NO2&NO3 N-TOTAL MG/L	00625 TOT KJEL N MG/L	00610 NH3-N TOTAL MG/L	00671 PHOS-DIS ORTHO MG/L P	00665 PHOS-TOT MG/L P
73/03/03	14 00		0.073	0.210	0.018	0.008	0.015
73/04/05	15 10		0.147	1.470	0.048	0.005K	0.010
73/04/08	11 00		0.066	1.200	0.042	0.005K	0.015
73/06/02	16 30		0.115	2.100	0.066	0.008	0.015
73/07/01	08 35		0.150	0.110	0.018	0.006	0.010
73/08/05	11 00		0.138	0.140	0.029	0.005K	0.015
73/09/06	10 45		0.072	0.310	0.024	0.005K	0.010
73/10/13	17 15		0.075	0.200	0.009	0.005K	0.010
73/11/03	16 55		0.052	0.200	0.033		0.010
73/12/04	11 50		0.156	0.300	0.024	0.005K	0.010
74/01/05	12 15		0.120	0.600	0.048	0.008	0.010
74/01/19	11 20		0.176	0.100	0.015	0.005K	0.010
74/02/02	11 25		0.132	0.100K	0.005	0.005	0.010
74/02/16	11 20		0.052	0.600	0.020	0.010	0.050

K VALUE KNOWN TO BE
LESS THAN INDICATED

STORET RETRIEVAL DATE 76/07/22

011201 13A2D1
34 10 00.0 085 20 30.0 4
BIG CEDAR CREEK
01 7.5 LIVINGSTON
T/WEISS RESVR 033591
BRDG ON RT 100 AT FOSTE MILLS
11EPALES 2111204
0000 FEET DEPTH CLASS 00

DATE FROM TO	TIME OF DAY	DEPTH FEET	00630 NO2&NO3 N-TOTAL MG/L	00625 TOT KJEL N MG/L	00610 NH3-N TOTAL MG/L	00671 PHOS-DIS ORTHO MG/L P	00665 PHOS-TOT MG/L P
73/03/03	14 40		0.240	1.050	0.036	0.037	0.070
73/04/05	14 55		0.320	2.900	0.210	0.071	0.075
73/04/0[illegible]	10 00		0.290	2.940	0.150	0.036	0.110
73/06/02	15 30		0.390	1.380	0.231	0.042	0.070
73/07/01	09 10		0.330	0.220	0.017	0.063	0.085
73/08/05	09 45		0.150	0.460	0.022	0.042	0.079
73/09/08	10 00		0.410	0.680	0.067	0.100	0.150
73/10/13	16 30		0.510	0.200	0.015	0.115	0.130
73/11/03	16 05		0.250	0.200	0.048		0.130
73/12/04	10 30		0.215	0.100K	0.005K	0.080	0.095
74/01/05	11 30		0.430	0.350	0.032	0.036	0.075
74/01/19	10 20		0.504	0.200	0.064	0.048	0.080
74/02/02	10 30		0.528	0.300	0.060	0.045	0.070
74/02/16	10 30		0.300	1.000	0.135	0.045	0.185

K VALUE KNOWN TO BE
LESS THAN INDICATED

14

STORET RETRIEVAL DATE 76/07/22

0112E1 13A2E1
34 10 00.0 085 26 00.0 4
MUD CREEK
01 7.5 NELSON GA-AL
1/WEISS RESVR 033591
BRDG GEORGE RD .4 MI SW OF BLACK BLUF RD
11EPALES 2111204
0000 FEET DEPTH CLASS 00

DATE FROM TO	TIME OF DAY	DEPTH FEET	00630 NO2&NO3 N-TOTAL MG/L	00625 TOT KJEL N MG/L	00610 NH3-N TOTAL MG/L	00671 PHOS-DIS ORTHO MG/L P	00665 PHOS-TOT MG/L P
73/03/03	15 00		0.056	1.680	0.063	0.019	0.045
73/04/05	14 30		0.023	2.310	0.093	0.006	0.015
73/04/04	09 30		0.046	2.600	0.360	0.011	0.040
73/06/02	15 00		0.036	2.700	0.190	0.008	0.020
73/07/01	09 25		0.031	0.675	0.069	0.010	0.030
73/08/05	09 15		0.040	0.630	0.039	0.005K	0.025
73/09/04	09 30		0.066	1.050	0.070	0.007	0.060
73/10/13	16 15		0.032	0.610	0.025	0.005K	0.025
73/11/03	15 45		0.011	0.500	0.018		0.020
73/12/09	10 00		0.012	0.300	0.012	0.005K	0.015
74/01/05	11 15		0.012	1.100	0.020	0.012	0.025
74/01/19	10 00		0.020	0.300	0.026	0.008	0.030
74/02/02	10 00		0.040	0.300	0.020	0.010	0.025
74/02/16	10 00		0.036	0.700	0.045	0.010	0.047

K VALUE KNOWN TO BE
LESS THAN INDICATED

STORET RETRIEVAL DATE 76/07/22

0112F1 LS0112F1
34 07 30.0 985 32 00.0 4
SPRING CREEK (S)
01 7.5 CEDAR BLUFF
T/WEISS RESVR 033591
BRDG ON SEC RD 1.5 # OF WHARTON
11EPALES 2111204
0000 FEET DEPTH CLASS 00

DATE FROM TO	TIME OF DAY	DEPTH FEET	00630 NO2&NO3 N-TOTAL MG/L	00625 TOT KJEL N MG/L	00610 NH3-N TOTAL MG/L	00671 PHOS-DIS ORTHO MG/L P	00665 PHOS-TOT MG/L P
73/03/03	15	25	0.198	0.770	0.042	0.022	0.089
73/04/05	14	10	0.350	1.680	0.044	0.006	0.015
73/04/08	09	35	0.105	1.000	0.038	0.023	0.070
73/06/02	14	30	0.280	2.400	0.220	0.009	0.025
73/07/01	09	50	0.240	0.210	0.021	0.012	0.045
73/08/05	08	50	0.138	0.270	0.022	0.005K	0.025
73/09/08	09	15	0.090	0.690	0.082	0.005K	0.025
73/10/13	15	50	0.054	0.290	0.015	0.007	0.020
73/11/03	15	25	0.014	4.300	0.018		0.015
73/12/09	09	30	0.104	0.200	0.040	0.008	0.020
74/01/05	10	50	0.368	0.200	0.024	0.028	0.040
74/01/19	09	30	0.440	0.200	0.012	0.008	0.030
74/02/02	09	30	0.470	0.100K	0.010	0.010	0.025
74/02/16	09	30	0.140	0.800	0.050	0.070	0.210

K VALUE KNOWN TO BE
LESS THAN INDICATED

4/3

STORET RETRIEVAL DATE 76/07/22

011251 LSU112G1
34 19 30.0 085 44 30.0 4
YELLOW CREEK
01 7.5 CENTRE AL
T/WEISS RESVR 033591
BRDG ON RD 4 MI NNE OF LEESBURG
11EPALES 2111204
0000 FEET DEPTH CLASS 00

DATE FROM TO	TIME OF DAY	DEPTH FEET	00630 NO2&NO3 N-TOTAL MG/L	00625 TOT KJEL N MG/L	00610 NH3-N TOTAL MG/L	00671 PHOS-DIS ORTHO MG/L P	00665 PHOS-TOT MG/L P
73/03/03	10	30	0.550	1.050	0.061	0.014	0.050
73/04/04	09	30	0.410	2.400	0.096	0.011	0.040
73/05/05	16	00	0.460	0.580	0.032	0.005K	0.015
73/06/02	15	30	0.320	0.320	0.050	0.009	0.020
73/07/01	10	00	0.320	0.230	0.030	0.008	0.020
73/08/04	18	20	0.230	0.210	0.017	0.005K	0.015
73/09/04	13	45	0.010K	0.560	0.027	0.005K	0.025
73/10/13	16	45	0.018	0.750	0.037	0.015	0.060
73/11/04	09	55	0.019	0.800	0.039	0.012	0.050
73/12/09	10	00	0.880	0.100	0.040	0.008	0.010
74/01/05	11	15	0.980	0.300	0.048	0.008	0.015
74/01/19	10	30	0.930	0.100K	0.040	0.005K	0.040
74/02/02	10	30	0.730	0.600	0.300	0.015	0.060
74/02/16	10	20	0.504	0.300	0.020	0.015	0.055

K VALUE KNOWN TO BE
LESS THAN INDICATED

STORET RETRIEVAL DATE 76/07/22

211241 LS011241
34 17 00.0 085 40 30.0 4
LITTLE RIVER
01 7.5 LITTLE RIVER
T/WEISE RESVR 033591
BRDG ON CO RT 15 IN VLG OF LITTLE RIVER
TIEPALES 2111294
0000 FEET DEPTH CLASS 00

DATE FROM TO	TIME OF DAY	DEPTH FEET	00630 NO2&NO3 N-TOTAL MG/L	00625 TOT KJEL N MG/L	00610 NH3-N TOTAL MG/L	00671 PHOS-DIS ORTHO MG/L P	00665 PHOS-TOT MG/L P
73/03/03	10	40	0.210	0.520	0.037	0.006	0.020
73/04/04	09	50	0.160	1.380	0.072	0.005K	0.015
73/05/05	16	30	0.110	4.000	0.110	0.005K	0.010
73/06/02	16	00	0.060	1.470	0.190	0.006	0.020
73/07/01	10	30	0.050	0.160	0.011	0.005K	0.005K
73/08/04	10	00	0.010K	0.150	0.019	0.005K	0.010
73/09/04	12	55	0.010K	0.400	0.021	0.005K	0.015
73/10/13	17	45	0.010K	0.240	0.026	0.005K	0.010
73/11/04	10	30	0.015	0.550	0.048	0.005K	0.035
73/12/04	10	40	0.232	0.100	0.028	0.005K	0.005K
74/01/05	12	00	0.300	0.400	0.040	0.008	0.008
74/01/19	11	00	0.312	0.100K	0.016	0.005K	0.010
74/02/02	09	10	0.288	0.400	0.040	0.005	0.030
74/02/16	10	40	0.216	0.400	0.025	0.005	0.080

K VALUE KNOWN TO BE
LESS THAN INDICATED

45 -

STORET RETRIEVAL DATE 76/07/22

0112J1 LS0112J1
34 16 30.0 085 37 30.0 4
SPRING CREEK (N)
01 7.5 GALEYSVILLE
T/WEISS RESVR 033591
BRDG ON CO RT 75 NEAR HURLEY
11EPALES 2111204
0000 FEET DEPTH CLASS 00

DATE FROM TO	TIME OF DAY	DEPTH FEET	00630 NO2&NO3 N-TOTAL MG/L	00625 TOT KJEL N MG/L	00610 NH3-N TOTAL MG/L	00671 PHOS-DIS ORTHO MG/L P	00665 PHOS-TOT MG/L P
73/03/03	11 05		0.470	0.705	0.092	0.024	0.075
73/04/08	10 05		0.273	3.900	0.120	0.008	0.035
73/05/05	16 45		0.399	1.890	0.052	0.005K	0.015
73/06/02	16 15		0.336	0.180	0.022	0.007	0.022
73/07/01	09 00		0.410	0.100K	0.018	0.005K	0.015
73/08/04	19 20		0.390	0.110	0.006	0.005K	0.020
73/09/08	12 40		0.357	0.270	0.014	0.005K	0.015
73/10/13	18 00		0.300	0.200	0.012	0.005K	0.015
73/11/04	10 55		0.350	0.200	0.011	0.005K	0.025
73/12/09	11 20		0.480	0.200	0.012	0.005K	0.010
74/01/05	12 35		0.430	0.200	0.012	0.008	0.025
74/01/19	11 30		0.460	0.100	0.008	0.005K	0.020
74/02/02	11 30		0.216	0.250	0.012	0.015	0.063
74/02/16	10 55		0.156	0.500	0.015	0.020	0.135

K VALUE KNOWN TO BE
LESS THAN INDICATED

STORET RETRIEVAL DATE 76/07/22

0112R1 L50112R1
34 16 00.0 085 33 30.0 4
CHATTOOGA RIVER
01 7.5 GAILEYSVILLE
T/WEISS RESVR 033591
BRDG ON ST RT 35 IN GAYLESVILLE
11EPALES 2111204
0000 FEET DEPTH CLASS 00

DATE FROM TO	TIME OF DAY	DEPTH FEET	00630 NO2&NO3 N-TOTAL MG/L	00625 TOT KJEL N MG/L	00610 NH3-N TOTAL MG/L	00671 PHOS-DIS ORTHO MG/L P	00665 PHOS-TOT MG/L P
73/03/03	11	20	0.390	1.800	0.132	0.154	0.300
73/04/08	10	20	0.273	4.000	0.132	0.094	0.210
73/05/05	16	55	0.420	1.050	0.080	0.105	0.155
73/06/02	16	30	0.340	0.490	0.072	0.040	0.130
73/07/01	09	35	0.480	0.340	0.028	0.120	0.175
73/08/04	19	30	0.640	0.620	0.080	0.294	0.355
73/09/08	11	15	0.590	0.720	0.100	0.565	0.620
73/10/13	18	20	0.490	0.790	0.054	0.580	0.670
73/11/03			0.390	0.750	0.075		0.886
73/12/09	12	00	0.450	0.300	0.036	0.032	0.165
74/01/05	13	30	0.370	0.200	0.024	0.048	0.095
74/01/19	12	00	0.460	0.300	0.032	0.072	0.120
74/02/02	12	00	0.384	0.300	0.020	0.060	0.140
74/02/16	11	10	0.240	0.600	0.050	0.055	0.200

STORET RETRIEVAL DATE 76/07/22

0112AA T:0112AA P060000
34 15 00.0 085 15 00.0 4
ROME (GEORGIA)
01 1:250000 ROME
T/WEISS RESERVOIR 033591
COOSA RIVER
11EPALES 2141204
0000 FEET DEPTH CLASS 00

DATE FROM TO	TIME OF DAY	DEPTH FEET	00630 NO2&NO3 N-TOTAL MG/L	00625 TOT KJEL N MG/L	00610 NH3-N TOTAL MG/L	00671 PHOS-DIS ORTHO MG/L P	00665 PHOS-TOT MG/L P	50051 FLOW RATE INST MGD	50053 CONDUIT FLOW-MGD MONTHLY
73/04/17	00	00							
CP(T)-			0.025	14.000	3.000	11.800	15.700	11.700	9.080
73/04/17	24	00							
73/05/15	00	00							
CP(T)-			3.700	10.500	3.100	4.700	12.000	8.050	7.820
73/05/15	03	00							
73/06/18			0.280	12.000	3.600	11.200	14.500	7.500	7.700
73/07/17	00	00							
CP(T)-			<0.010A	13.800	2.817	3.990	7.900	8.400	7.230
73/07/17	02	00							
73/08/20	00	00							
CP(T)-			0.013	18.000	2.960	9.350	14.000	8.990	7.230
73/08/20	24	00							
73/09/23	00	00							
CP(T)-			0.100	15.400	3.300	6.100	7.500	4.110	5.920
73/09/23	03	00							
73/10/18	00	00							
CP(T)-			0.650	12.500	3.000	4.700	7.400	6.460	6.630
73/10/18	24	00							
73/11/22	00	00							
CP(T)-			0.160	16.000	6.500	5.100	5.900	4.990	6.770
73/11/22	24	00							
74/06/18	00	00							
CP(T)-			0.230	13.000	2.900	5.100	6.100	3.300	3.190
74/06/18	04	00							
74/10/16	00	00							
CP(T)-			0.080	13.000	1.500	11.000		8.660	6.100
74/10/16	02	00							
74/12/17	00	00							
CP(T)-			0.150	13.500	2.100	6.400	9.700	4.640	5.500
74/12/17	04	00							
75/01/04	00	00							
CP(T)-			0.080	7.200	0.790	5.900	7.100	5.050	4.500
75/01/04	02	00							
75/04/22	00	00							
CP(T)-			0.100	6.600	0.650	10.520	13.000	7.840	7.050
75/04/22	04	00							

A VALUE KNOWN TO BE
LESS THAN INDICATED

STORET RETRIEVAL DATE 76/07/22

01120A TF01120A P007000
34 01 00.0 085 15 45.0 4
CEDARTOWN (GEORGIA)
01 13250000 NUME
T/WEISS RESERVOIR 033591
BIG CEDAR RIVER
11EPALES 2141204
0000 FEET DEPTH CLASS 00

DATE FROM TO	TIME OF DAY	DEPTH FEET	00630 NO2&NO3 N-TOTAL MG/L	00625 TOT KJEL N MG/L	00610 NH3-N TOTAL MG/L	00671 PHOS-DIS ORTHO MG/L P	00665 PHOS-TOT MG/L P	50051 FLOW RATE INST MGD	50053 CONDUIT FLOW-MGD MONTHLY
73/05/01	11 00								
CP(E)-			3.800	4.100	0.074	2.500	3.175	1.120	1.140
73/05/01	16 00								
73/07/04	11 00								
CP(E)-			3.600	1.200	0.410	5.300	7.050	1.500	1.200
73/07/04	16 00								
73/08/03	11 00								
CP(E)-								0.854	0.745
73/08/03	16 00								
73/09/04	11 00								
CP(E)-			3.540	7.700	0.180	8.840		0.807	0.831
73/09/04	16 00								
73/10/04	11 00								
CP(E)-			0.240	8.000	1.100	7.000	8.200	0.838	0.850
73/10/04	16 00								
73/11/04	11 00								
CP(E)-			0.740	10.500	2.940	7.700	8.600	0.855	0.772
73/11/04	16 00								
73/12/05	11 00								
CP(E)-			0.880	5.700	0.420	6.200	8.050	0.871	0.830
73/12/05	16 00								
74/01/03	11 00								
CP(E)-			1.400	3.100	0.330	3.400	3.300	0.930	0.875
74/01/03	16 00								
74/02/05	11 00								
CP(E)-			0.360	8.300	0.240	4.200	5.500	1.060	1.090
74/02/05	16 00								
74/03/05	11 00								
CP(E)-			0.920	5.400	0.170	11.000	12.000	1.210	1.120
74/03/05	16 00								
74/04/05	11 00								
CP(E)-			3.200	1.000K	0.150	2.700	3.400	1.210	0.978
74/04/05	16 00								

K VALUE KNOWN TO BE
LESS THAN INDICATED

STORET RETRIEVAL DATE 76/07/22

01120H AS01120H P00220U
34 07 10.0 085 20 10.0 4
CAVE SPRINGS
01 FLOYD CO GA HWY
T/LAKE WEISS 033591
CEDAR CREEK
11EPALES 2141204
0000 FEET DEPTH CLASS 00

DATE FROM TO	TIME OF DAY	DEPTH FEET	00630 NO2&NO3 N-TOTAL MG/L	00625 TOT KJEL N MG/L	00610 NH3-N TOTAL MG/L	00671 PHOS-DIS ORTHO MG/L P	00665 PHOS-TOT MG/L P	50051 FLOW RATE INST MGD	50053 CONDUIT FLOW-MGD MONTHLY
73/10/01 CP(T)- 73/10/02	15 00 08 00		0.110	2.100	0.092	2.500	3.000	4.750	4.080

STORET RETRIEVAL DATE 76/07/22

0112KA P00112KA P0000050
34 12 50.0 085 36 50.0 4
BURGESS MANUFACTURING
01 7.5 CEDAR BLUFF
T/WEISS RESERVOIR 033591
CHATTOOGA RIVER
11EPALES 2141204
0000 FEET DEPTH CLASS 00

DATE FROM TO	TIME OF DAY	DEPTH FEET	00630 NO2&NO3 N-TOTAL MG/L	00625 TOT KJEL N MG/L	00610 NH3-N TOTAL MG/L	00671 PHOS-DIS ORTHO MG/L P	00665 PHOS-TOT MG/L P	50051 FLOW RATE INST MGD	50053 CONDUIT FLOW-MGD MONTHLY
73/04/03	07 30		0.810	9.900	3.000	2.950	4.300	0.010	0.010
73/05/07	07 00		29.600	9.950	9.950	2.000	3.100	0.010	0.010
73/06/05			31.000	17.600	13.000	2.300	3.800	0.010	0.010
73/07/05	09 00		18.800	16.800	6.000	1.680	3.700	0.010	0.010
73/08/10	18 00		38.400	12.400		2.100	3.400	0.010	0.010
73/09/10	06 00		42.000	10.500	10.130	0.975	5.000		
73/10/04	00 00		35.000	7.400	7.200	1.260	2.800	0.010	0.010
73/11/05	15 00		29.000	7.600	6.800	2.000	4.900	0.010	0.010
73/12/05	15 00		28.000	13.000	5.900	1.760	3.900	0.010	0.010

STORET RETRIEVAL DATE 76/07/22

0112KH A50112KH P004000*
34 58 00.0 085 05 30.0 4
SUMMERVILLE (GEORGIA)
01 1:250000 ROME
T/WEISS RESERVOIR 040892
MT HOPE CREEK
11EMALES 2141204
0000 FEET DEPTH CLASS 00

DATE FROM TO	TIME OF DAY	DEPTH FEET	00630 NO2&NO3 N-TOTAL MG/L	00625 TOT KJEL N MG/L	00610 NH3-N TOTAL MG/L	00671 PHOS-DIS ORTHO MG/L P	00665 PHOS-TOT MG/L P	50051 FLOW RATE INST MGD	50053 CONDUIT FLOW-MGD MONTHLY
73/04/16	16 30		2.200	3.700	0.360	8.900	9.300	1.100	1.100
73/05/23	15 00		4.400	2.525	0.130	8.400	9.400		
73/06/20			2.500		0.840	14.200	16.000	1.100	1.100
73/07/19	09 00		4.700	1.900	0.096	10.200	11.500	1.100	1.100
73/08/16	08 30		1.050	2.200	0.130	6.000	15.700	1.100	1.100
73/09/17			6.400	2.300	0.200	15.200	15.500	1.100	1.100
73/10/17	11 00		8.000	1.700	0.150	4.900	19.500	1.100	1.100
73/11/15	09 00		3.800	2.200	0.097	20.000	21.000	1.100	1.100
73/12/17	11 10		0.720	11.000	0.220	8.600	11.000	1.100	1.100
74/01/17	09 00		0.560	1.200	0.040K	5.900	7.330	1.100	1.100
74/04/08	12 30		0.920	1.400	0.068	6.000	7.000	1.100	1.100

K VALUE KNOWN TO BE
LESS THAN INDICATED

STORET RET-IEVAL DATE 76/07/22

0112KC A50112KC P050500
36 33 00.0 085 06 30.0 4
TRION (GEORGIA)
01 1:250000 HOME
T/WEISS RESERVOIR 033591
CHATOOGA RIVER
11FEALES 2141204
0000 FEET DEPTH CLASS 00

DATE FROM TO	TIME OF DAY	DEPTH FEET	00630 NO2&NO3 N-TOTAL MG/L	00625 TOT KJEL N MG/L	00610 NH3-N TOTAL MG/L	00671 PHOS-DIS ORTHO MG/L P	00665 PHOS-TOT MG/L P	50051 FLOW RATE INST MGD	50053 CONDUIT FLOW-MGD MONTHLY
73/04/30	11 00								
CP(T)-			0.193	21.A00		0.370	3.450	4.940	4.620
73/04/30	15 35								
73/05/24	11 00								
CP(T)-			0.165	18.990	C.850	0.540	2.700	4.990	4.900
73/05/24	16 00								
73/06/24	11 00								
CP(T)-			0.045	17.600	1.370	0.550	2.700	2.000	4.400
73/06/24	16 00								
73/07/30	11 00								
CP(T)-			0.140	23.100	0.086	0.630	3.900	4.760	4.100
73/07/30	16 00								
73/08/31	11 00								
CP(T)-				23.100	0.020	0.280	3.400	4.270	4.120
73/08/31	15 30								
73/09/24	11 00								
CP(T)-			0.230	23.000	0.770	0.870	3.530	3.300	3.700
73/09/24	16 00								
73/10/31	11 00								
CP(T)-			0.020	21.030	0.050	0.350	2.500	4.400	3.500
73/10/31	16 00								
73/12/24	11 30								
CP(T)-			0.420	16.300	0.040K	0.400	3.000	4.500	4.600
73/12/24	15 30								
74/01/31	11 00								
CP(T)-			0.200	17.000	0.080	0.790	4.40C	4.800	3.900
74/01/31	16 00								
74/02/24	11 00								
CP(T)-			0.200	16.000	0.050K	0.860	3.150	4.600	4.100
74/02/24	16 00								
74/04/01	10 00								
CP(T)-			0.240	17.000	0.270	0.840	2.800	4.400	3.700
74/04/01	14 00								
74/05/31	10 00								
CP(T)-			0.120	18.000	0.050	0.440	2.400	4.900	4.600
74/05/31	15 00								

K VALUE KNOWN TO BE
LESS THAN INDICATED

STORET RETRIEVAL DATE 76/07/22

011221 IF011221 P070000
34 31 00.0 084 57 00.0 4
CALHOUN (GEORGIA)
01 1:250000 ROME
T/WEISS RESERVOIR 033591
OOSTANAULA RIVER
11EPALES 2141204
0000 FEET DEPTH CLASS 00

DATE FROM TO	TIME OF DAY	DEPTH FEET	00630 NO2&NO3 N-TOTAL MG/L	00625 TOT KJEL N MG/L	00610 NH3-N TOTAL MG/L	00671 PHOS-DIS ORTHO MG/L P	00665 PHOS-TOT MG/L P	50051 FLOW RATE INST MGD	50053 CONDUIT FLOW-MGD MONTHLY
73/05/13	10 00		1.050	6.400	0.068	1.100	2.100		
73/06/13	10 00		0.071	7.700	0.530	11.000	19.300		
73/07/15	10 00		4.700	2.200	0.260	11.600	14.500		
73/08/15	10 00							5.500	5.000
73/09/11	10 00			9.400	1.840	14.000	15.500	5.410	
73/10/12	10 00		0.110	6.800	2.200	17.300	17.300	6.100	5.500
73/11/13	10 00		0.390	18.000	2.200	13.700	18.200	5.450	
73/12/13	10 00		0.180	19.000	0.920	11.600	16.900	4.640	
74/01/14	10 00		1.120	3.500	0.220	2.240	3.400	5.230	11.600
74/02/10	10 00							5.570	7.260
74/03/13	10 00		0.160	8.600	0.280	13.200	16.800	4.600	3.670
74/04/14	10 00		0.260	2.300	0.220	4.900	6.500	3.420	4.750
74/05/14	10 00		0.200	13.000	0.290	10.500	12.500	4.340	3.810

APPENDIX E

PARAMETRIC RANKINGS OF LAKES SAMPLED BY NES IN 1974 STATE OF ALABAMA

LAKE DATA TO BE USED IN RANKINGS

LAKE CODE	LAKE NAME	MEDIAN TOTAL P	MEDIAN INORG N	500- MEAN SEC	MEAN CHLORA	15- MIN DO	MEDIAN DISS ORTHO P
0101	BANKHEAD LAKE	0.029	0.770	452.667	4.017	14.900	0.007
0103	GANTT RESERVOIR	0.029	0.300	465.778	2.144	14.000	0.008
0104	GUNTERSVILLE RESERVOIR	0.044	0.480	461.111	8.567	12.200	0.014
0105	HOLT LOCK AND DAM	0.018	0.835	449.417	2.183	13.600	0.005
0106	LAY LAKE	0.076	0.390	470.778	7.056	13.000	0.032
0107	MARTIN LAKE	0.017	0.170	435.250	6.407	15.000	0.004
0108	MITCHELL LAKE	0.053	0.290	466.000	6.211	12.400	0.022
0109	PICKWICK LAKE	0.056	0.535	455.000	2.450	11.900	0.035
0112	WEISS RESERVOIR	0.092	0.260	478.389	11.261	14.900	0.034
0114	WILSON LAKE	0.053	0.460	447.714	7.400	10.200	0.022
0115	LAKE PURDY	0.049	0.170	437.889	12.711	15.000	0.014

PERCENT OF LAKES WITH HIGHER VALUES (NUMBER OF LAKES WITH HIGHER VALUES)

LAKE CODE	LAKE NAME	MEDIAN TOTAL P	MEDIAN INORG N	500-MEAN SEC	MEAN CHLORA	15-MIN DO	MEDIAN DISS ORTHO P	INDEX NO
0101	HANNAHEAD LAKE	75 (7)	10 (1)	60 (6)	70 (7)	25 (2)	80 (8)	320
0103	GANTT RESERVOIR	75 (7)	60 (6)	30 (3)	100 (10)	40 (4)	70 (7)	375
0104	GUNTERSVILLE RESERVOIR	60 (6)	30 (3)	40 (4)	20 (2)	80 (8)	55 (5)	285
0105	HOLT LOCK AND DAM	90 (9)	0 (0)	70 (7)	90 (9)	50 (5)	90 (9)	340
0106	LAY LAKE	10 (1)	50 (5)	10 (1)	40 (4)	60 (6)	20 (2)	140
0107	MARTIN LAKE	100 (10)	95 (9)	100 (10)	50 (5)	5 (0)	100 (10)	450
0108	MITCHELL LAKE	40 (4)	70 (7)	20 (2)	60 (6)	70 (7)	35 (3)	295
0109	PICKWICK LAKE	20 (2)	20 (2)	50 (5)	80 (8)	90 (9)	0 (0)	260
0112	WEISS RESERVOIR	0 (0)	80 (8)	0 (0)	10 (1)	25 (2)	10 (1)	125
0114	WILSON LAKE	30 (3)	40 (4)	80 (8)	30 (3)	100 (10)	35 (3)	315
0115	LAKE PURDY	50 (5)	95 (9)	90 (9)	0 (0)	5 (0)	55 (5)	295

LAKES RANKED BY INDEX NOS.

RANK	LAKE CODE	LAKE NAME	INDEX NO
1	0107	MARTIN LAKE	450
2	0105	HOLT LOCK AND DAM	340
3	0103	GANTT RESERVOIR	375
4	0101	BANKHEAD LAKE	320
5	0114	WILSON LAKE	315
6	0115	LAKE PURDY	295
7	0108	MITCHELL LAKE	295
8	0104	GUNTERSVILLE RESERVOIR	285
9	0109	PICKWICK LAKE	260
10	0106	LAY LAKE	190
11	0112	WEISS RESERVOIR	125